

REMARKS

By the above amendments, the claims 1, 3 and 4 have been amended to eliminate from consideration the irrelevant issue as to determination of the relative spacing between the elements as part of the relevant position determination by specifying that the relative position determination is with respect to parallel offset and angular offset as described on page 4 of the specification of this application. Additionally, based on discussions with the Examiner at a personal interview held on July 27, 2005, the claims have also been amended define the location of the elements and sensors, and how their output signals are used to determine relative position of the elements. In this regard, it is noted that the specification has been amended above to identify the U.S. counterparts to the foreign references cited in paragraphs [0002] and [0003], i.e., that DE 38 14 466 corresponds to U.S. Patent 6,337,742 and DE 199 23 116 corresponds to U.S. Patent 6,476,914. As stated in paragraph [0002] , these references describe “[p]rocesses of the type to which the present invention is directed” and it is expressly stated that “in this connection reference should be made to the teaching thereof.”

If the Examiner reviews these references, it will be very clear how the necessary determinations can be made and that the present invention departs from this prior art in being able to eliminate the reflectors and beam splitters used in these prior arrangements. In particular, a collimated light source is for producing at least one light beam and is connected to a first of the two elements at a known coordinate location, and the location of the sensors relative to each other and the light source is also known, so that deviation of a light beam from the coordinates at which it would be detected if the parallel and angular offsets of the elements were zero can be used to determine the actual parallel and angular offsets of the elements.

Thus, it is submitted that the claimed invention is disclosed in a manner that would be enabling to those of ordinary skill in the art given what is taught by the prior art documents to which express reference has been made as to the nature of the

processes used by the present invention. Accordingly, withdrawal of the outstanding rejection under the first paragraph of 35 U.S.C. 112 is in order and is requested.

Turning now to the Examiner's rejection of claims 1, 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over the Holzl '998 patent when viewed in conjunction with applicant's admitted prior art, it is applicant's continued position that this rejection is totally inappropriate, as is the Examiner's failure to give appropriate weight to the declaration evidence submitted that clearly and unequivocally establishes that the invention is not obvious from anything taught by Hölzl when considered in combination with that which was known to those of ordinary skill in the art.

Firstly, the Examiner has recognized the structural difference between the arrangement of the present application in which the first optoelectronic sensor reflects light to the second optoelectronic sensor in contrast to the arrangement of Hölzl that he relies upon in which a portion of the light incident on the first optoelectronic sensor is transmitted through it to the second first optoelectronic sensor. However, rather than analyze why one of ordinary skill in the art would find it obvious to abandon the light transmissive arrangement of Hölzl and adopt the light reflective arrangement, as is required for proper establishment of a prima facie case of obviousness, the Examiner goes on to rationalize why going from one to the other is nothing more than "an obvious matter of design choice" based on functional and operation considerations which totally fail to address the structural issues involved or even to properly assess the state of the art and the differences between it and the claimed invention as required.

For example, the Examiner states that "it is implicitly true whether the light incident on the second detector is reflected or transmitted from the first detector the operational principle for obtaining the relative position between the two shafts or elements do not change." However, this simplistic approach ignores the fact that using a reflective approach would require an entirely different positioning of the two sensors relative to each other and the light source (compare Figs. 3 & 4 of the present

application and Figs. 2 & 3 of Hölzl) which, in turn, affects packaging of the components and how they would be usable on the shafts being aligned. For example, if sensor 9 were reflective instead of transmissive, sensor 10 could not be located on the opposite side of the sensor 9 from the light source as is shown by Hölzl.

Furthermore, the Examiner's reliance on applicant's admission that he has found commercially available optoelectronic sensors which sufficient reflectivity to be usable for his purposes does nothing to advance the Examiner's conclusion of obviousness. That is, only the Applicant has established that sufficient light can be reflected from the surface of a first optoelectronic sensor to be received upon the surface of a properly positioned second optoelectronic sensor to enable the second sensor to sense the impinging reflected light and output a signal which accurately represents the position of the reflected light (beam) on the second optoelectronic sensor, and the Examiner has produced no evidence to indicate otherwise. The fact that a two optoelectronic sensor system can be used to determine accurate positional relationships between machine parts or elements is not an issue relevant to a determination of obviousness of the present invention since Hölzl already clearly establishes that fact. The true issue is as noted above, given that the art does not teach use of the reflectance of an optoelectronic sensor in the manner of the present invention, why would it have been obvious to do so. Relevant to the Examiner's inappropriate assessment of obvious is the Board of Appeals case of *Ex Parte Gerlach and Werner*, 212 USPQ 471, (1980) which states that:

There is nothing in the statutes or the case law which makes 'that which is within the capabilities of one skilled in the art' synonymous with obviousness.

The examiner provides no reason why, absent the instant disclosure, one of ordinary skill in the art would be motivated to change [the structure of the references to that which was claimed].

Similarly, the Federal Circuit has stated that the mere fact that a modification could be made does not make it obvious absent a teaching of desirability; see, *In re Deminski*, 230 USPQ 313 (Fed. Cir. 1886); *In re Gordon*, 221 USPQ 1125 (1984). In the present case, not only has the Examiner failed to provide the requisite reason or motivation for

what he contends to be obvious, but he does not even attempt to determine what changes would be needed since more than a mere change of one sensor for another is required. Thus, the Examiner is reminded the Examiner is required to make the factual determinations set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 48 (Supreme Court 1966) and to provide reason why one having ordinary skill in the art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention based upon some teaching, suggestion or inference in the prior art, *Uniroyal, Inc. v. Rudkin-Wiley*, 5 USPQ2d 1434 (Fed. Cir. 1988). The statement that something is an "obvious design choice" is a mere conclusion for which some factual evidence in the prior art must be established, something the Examiner has wholly failed to do.

For example, the Examiner has failed to indicate where it is taught or suggested by the AIPA (or Holzl) that the reflective capabilities of the surface of a first optoelectronic sensor can be utilized in a two-sensor position determination system. The AIPA merely is that applicant has found a known sensor which will serve his needs but where is it indicated that anything was known to those other than applicant which would have led them to believe that any reflectance possessed by such sensors was anything other than a detriment given Holzl and others use the transmittance of the first optoelectronic sensor to provide accurate position determinations in combination with a second optoelectronic sensor receiving the transmitted light from the first optoelectronic sensor, not reflectance, such that such a sensor would logically have an anti-reflectance coating applied if it were to be used for a Holzl type system.

In fact, it was previously indicated how, conventionally, optoelectronic sensors are provided with an anti-reflection coating to reduce the reflectivity of the sensor, i.e., improve the transmittance as required by Holzl, a search of the USPTO patent database having been submitted that revealed more than 1000 patents which disclose such coatings for optoelectronic sensors. Simply put, the Examiner has not met his burden of establishing, through any teachings of Holzl or the AIPA, that one of

ordinary skill in the art would recognized that the reflective characteristics of the surface of an optoelectronic sensor, rather than being an undesirable feature (as evidenced by the common use of anti-reflection coatings on such sensors) could be used to advantage. To the contrary, only the present inventor has determined that, contrary to conventional wisdom, a simple low cost apparatus for determining the positional relationship of elements which avoids the need for a partially transmitting reflector can be produced based on using a sensor with a light reflective, not a light transmissive, surface.

Still further, if it were obvious to the reflectivity of known sensors, why would the devices of the referenced U.S. Patents 6,337,742 and 6,476,914 (which are more recent than that of the Hölz patent relied upon by the Examiner) have found it necessary to use mirrors and prism instead of the reflective capacity of the sensors? In this regard, it is noted Hölz is also one of the inventors of U.S. Patent 6,476,914, further indicating that the ability to rely on the reflectivity of the sensors was not apparent to those skilled in the art.

Therefore, in light of the deficiencies in the Examiner's assessment commented upon above, a prima facie case of obviousness has not been established by the combination of the teachings of Holzl and AAPA, and consequently, the rejection of claims 1, 3 and 4, under § 103(a), is improper and should now be withdrawn.

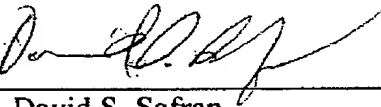
The present application should now be in condition for allowance and action to that effect is requested. However, should the Examiner find some issue to remain unresolved, or should any new issue arise, which could be eliminated through discussions with the Applicant's representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Lastly, it is noted that a separate Petition for Extension of Time (three months) accompanies this response along with an authorization to charge the requisite extension of time fee to Deposit Account No. 19-2380 (741124-79). However, should that petition become separated from this Amendment, then this Amendment should be

construed as containing such a petition. Likewise, any overage or shortage in the required payment should be applied to Deposit Account No. 19-2380 (741124-79).

Respectfully submitted,

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